

**DUAL GATE OXIDE HIGH-VOLTAGE SEMICONDUCTOR DEVICE  
AND METHOD FOR FORMING THE SAME**

**Abstract of the Invention**

A dual gate oxide high-voltage semiconductor device and method for  
5 forming the same are provided. Specifically, a device formed according to the  
present invention includes a semiconductor substrate, a buried oxide layer formed  
over the substrate, a silicon layer formed over the buried oxide layer, and a top  
oxide layer formed over the silicon layer. Adjacent an edge of the top oxide  
layer, a dual gate oxide is formed. The dual gate oxide allows both specific-on-  
10 resistance and breakdown voltage of the device to be optimized.

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